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RESPONSIVENESS SUMMARY FOR THE PROPOSED REMEDIAL ACTION PLAN AT THE MEDLEY FARM SUPERFUND SITE GAFFNEY, SOUTH CAROLINA

Public Comment:
February 13 through April 14, 1991

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Prepared for:
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Region IV

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MEDLEY FARM SUPERFUND SITE

RESPONSIVENESS SUMMARY FOR THE PROPOSED REMEDIAL ACTION PLAN

T A B L E O F C O N T E N T S

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RESPONSIVENESS SUMMARY
for the U.S. EPA Region IV
Medley Farm Superfund Site Public Meeting
Gaffney High School, Gaffney, South Carolina
February 12, 1991

This community relations Responsiveness Summary is divided into the following sections:

Overview: This section discusses EPA's preferred alternatives for remedial action.

Background: This section provides a brief history of community interest and concerns raised during remedial planning at the Medley Farm Superfund Site.

Part I: This section provides a summary of commentors' major issues and concerns, and expressly acknowledges and responds to those raised by the local community. "Local community" may include local homeowners, businesses, the municipality, and not infrequently, potentially responsible parties (PRPs).

Part II: This section provides a comprehensive response to all significant comments and is comprised primarily of the specific legal and technical questions raised during the public comment period. If necessary, this section will provide technical details on answers presented in Part I.

OVERVIEW

~~At the time of~~ the public comment period, EPA published its preferred alternatives for the Medley Farm Superfund Site, located in Gaffney, South Carolina. ~~EPA's preferred~~ alternatives addresses contamination of the groundwater and surface soils around the Site. The preferred remedy includes the following ~~alternatives~~ technologies as described in the Draft FS dated December 1990:

- Treatment Using Air Stripping: Recovery of groundwater above maximum contaminant levels (MCLs) and treating the extracted groundwater prior to discharging to Jones Creek through an air stripping tower.

- Soil Vapor Extraction: Soil vapor extraction in areas exceeding calculated soil remediation levels. If necessary to comply with applicable portions of

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the Clean Air Act and the South Carolina Pollution Control Act, the extracted vapors will be controlled using an activated carbon unit.

EPA's preferred alternative for addressing groundwater contamination involves extracting or removing contaminated water from the upper + bedrock portions of the aquifer using wells and treating the contaminated water by air stripping. Air stripping is a process in which air is forced through contaminated water, causing volatile organic compounds (VOCs) to evaporate. ~~Organic compounds would be treated with a carbon adsorption treatment, which uses granular activated carbon to remove organic contaminants found in the water.~~ Once this process is completed, extracted groundwater ~~would~~ be ~~reinjected into the ground~~. discharged to Jones will Creek via a National Pollution Discharg Elimination System permit.

EPA's preferred alternative for addressing contaminated soils is soil vapor extraction (SVE). As proposed, the SVE treatment process would remove volatile and some semi-volatile organic compounds from the soil. A vacuum extraction system consists of a network of air withdrawal (or vacuum) wells installed in the unsaturated zone. A pump and manifold system of pipes is used to apply a vacuum on the air wells that feed an in-line water removal system, and an in-line vapor phase carbon adsorption system for VOC+SVOC removal. Vacuum wells can either be installed vertically to the full depth of the contaminated unsaturated zone or installed horizontally within the contaminated unsaturated zone. ~~If horizontal vacuum wells are utilized, the wells would require construction by trenching to mid-depth in the soil column. For the purposes of this evaluation,~~ Vertical wells were selected due to the depth of the soil strata requiring remediation, geotechnical conditions, and the depth to groundwater.

Although the Risk Assessment indicates that the soil, under present conditions does not pose an unacceptable risk to human health or the environment, the soils will continue to adversely impact the groundwater flowing beneath the Site above acceptable levels. Therefore, the Agency has determined that SVE is warranted to remove contaminants from the soil.

BACKGROUND

Community interest and concern about the Medley Farm Site has been moderate over the past several years. EPA has sponsored a number of public meetings to help the community understand its role in the Superfund process and to share information regarding the direction and technical objectives of data collection activities at the Site. A broad cross-section of the community has been represented at these meetings, including local government officials, community residents, and the PRPs.

To obtain public input on the Agency's proposed plan for remedial action at the Medley Farm Site, EPA held a public comment period from February 13, through April 14, 1991. The public comment period, originally scheduled to end March 14, 1991, was extended 30 days at the request of the community, to allow additional ~~public~~ time to comments on the proposed plan.

Take from ROD

EPA's community relations efforts include a fact sheet and a public meeting in May 1990 to present the remedial investigation study results; a notice of the proposed plan and availability of the administrative record that appeared in the Greenville News on February 10, 1991; a public meeting held on February 12, 1991; and a notice extending the public comment period that appeared in the Greenville News on March 19, 1991. Approximately 16 people attended the most recent public meeting. EPA has maintained contact with the local community throughout the remedy selection process. A copy of the public notice announcing the Agency's proposed plan for remedial action is included as an Appendix to this summary.

PART I: SUMMARY OF COMMENTORS' MAJOR ISSUES AND CONCERNS

This section provides a summary of commentors' major issues and concerns, and expressly acknowledges and responds to those raised by the local community. The major issues and concerns on the proposed remedy for the Medley Farm Site received at the public meeting on February 12, 1991, and during the public comment period, can be grouped into three areas:

A. Identification and involvement of PRPs
B. Cleanup costs
C. Selection of a remedy.

A summary of the comments and EPA's response to them is provided below. A complete transcript of concerns raised during this segment of the meeting, along with the responses, is included on pages 14-18 of the meeting transcript (Attachment A). Jon Bornholm, Remedial Project Manager for EPA, Region IV, responded to all questions.

A. Identification and Involvement of PRPs

Q: What companies, individuals, or other parties have been named as PRPs and will there be any criminal charges filed against them?

A: According to the Administrative Order, the following parties were named prior to the Risk Assessment: Milliken and Company; Unisphere Chemical Corporation; National Starch and Chemical Corporation; ABCO; BASF Corporation; Polymer Industries; Tanner Chemical Company, and; Ethox Chemical, Inc. The Medleys, including Ralph and Clyde Medley, were subsequently

added to the list. To the best of my knowledge, I do not know if there will be any criminal charges filed against them.

Q: Is the Agency going to recover the cost of the initial cleanup from the PRPs?

A: The majority of the cleanup costs is coming from the PRPs and has been recovered. The PRPs have paid for all the investigation work completed to date. The only costs the government has incurred right now are oversight costs, and EPA will also be seeking to recover those costs from the PRPs.

Q: Will the EPA have to enter into negotiations with the PRPs?

A: After the Agency publishes its decision, it then issues special notice letters to all of the identified PRPs to begin negotiations on the RD and RI, which usually lasts six months. A Consent Decree, summarizing the results of those negotiations, is then produced and becomes a record in the Federal court system. If a decision cannot be reached during the six-month period of negotiations, the EPA will issue a Unilateral Administrative Order (UAO), forcing the PRPs to implement a new RD and RA. If the PRPs refuse to comply with the UAO then Superfund will be implemented and the PRPs will become liable for further damages.

B. Cleanup Costs

Q: How much is the cost of the cleanup?

A: The FS presented several scenarios. The 10-year and 30-year scenarios for the extraction and treatment of groundwater are estimated to be $1.2 million and $1.9 million, respectively. The cost to treat the source through soil vapor extraction is set at $550,000, a process which is estimated to be complete in one year. Therefore, the total present cost for the 10-year and 30-year scenarios for groundwater extraction and treatment with soil vapor extraction is $1.8 million and $2.4 million, respectively.

Q: What is the significance of the 10-year and 30-year scenarios?

A: The remediation of groundwater is not a science. Sirrine Environmental Consultants estimated that it will

take 20 years, under natural conditions, for the flushing of soils by rain to clean the soils down to a level where there is no longer any natural groundwater. Over those 20 years, the groundwater also will be treated to remove those contaminants entering it. The purpose of the soil vapor extraction system is to shorten the period where organics are allowed to enter the groundwater. The selected RA would cost at least $1.8 million for the 10-year scenario and $2.4 million for the 30-year scenario.

C. Selection of Remedy

Comment:

Soil vapor extraction (SVE) (Alternative SC-3) should be eliminated from the plan for remedial action because it is neither necessary for compliance with ARARs nor cost-effective. According to the commentor, the great majority of chemical residues at the Site were removed during the immediate removal action in 1983. The commentor noted three problems with the proposed remedy:

- Site conditions are consistent with aquifer and contaminant characteristics that are likely to prolong aquifer restoration. Therefore, the time necessary for cleanup will apply to pump and treat the groundwater after the natural flushing period is underestimated in the EPA proposal.

- Remediation is not necessary for compliance with ARARs because all Site soils are less than the TSCA remediation level and they do not pose a significant risk to human health or environment.

- The estimated costs for remediation do not consider the longer remediation period required for the EPA preferred remedy, therefore cost savings are not accurate.

The commentor proposed that EPA instead use natural flushing (Alternative SC-1) combined with groundwater recovery and treatment (Alternative GWC-2A) as the remedy for the Site. The commentor suggests that groundwater extraction alone can prevent potential future risks, is technically justifiable based on EPA experience, and in conjunction with natural flushing is the most cost-effective remedy for the Site.

The letter to EPA documenting these comments on the selection of a remedy, dated April 12, 1991, is attached as Appendix E to this summary.

A: It is the Agency's opinion that the selected remedy is the best overall choice for remediation of both soil and groundwater at the Site. The natural flushing alternative is not acceptable because:

- The time necessary to pump and treat the groundwater after the natural flushing period is underestimated
- Cost savings from the commentor's proposal may not be substantial and do not justify reliance on natural flushing
- Technical publications strongly recommend addressing residual source areas using a companion technology with pump-and-treat, such as SVE

EPA believes that eliminating the residual source areas by using SVE is more logical than using natural flushing, since the areas are a potential problem which would likely affect the pump-and-treat system.

In reviewing the feasibility of a remedy, EPA is required by legislation to consider two criteria not reviewed by the commentor: state acceptance and community acceptance of the remedy. State and community representatives will not support a natural flushing, or "No Action," scenario. In fact, the South Carolina Department of Health and Environmental Control (SCDHEC) has concurred with and supports the selected remedy. It is therefore the Agency's opinion that the selected remedy is the best overall choice for remediation of both soil and groundwater at the Medley Farm Site.

PART II: COMPREHENSIVE RESPONSE TO SIGNIFICANT COMMENTS

This section provides a comprehensive response to all significant comments on the Medley Farm Superfund Site received during the public comment period. The information presented in this section provides technical details for issues discussed in Part I, specifically, issues raised regarding the selection of a remedy for the Medley Farm Superfund Site. Technical issues are discussed in terms of the following:

- Duration of the Response Action
- Cost Estimates
- Companion Treatment System.

This discussion is presented in the section below.

A. Selection of Remedy

Duration of the Response Action

The Agency does not dispute the findings of the studies researched by the commentor that the time required to pump and treat groundwater with residual soil contaminants removed during the first year is underestimated. The underestimation of time, however, also applies to pump and treat groundwater 20 years in the future to remove the residual contaminants entering the groundwater (natural flushing), not just SVE.

The commentor's assumption that a 50% reduction in the concentrations of residual contaminants present in the groundwater will be needed may not hold true, since there are uncertainties associated with the assumptions required by the computer models. Treating contaminants that enter the groundwater in the 20th year of natural flushing by the groundwater pump-and-treat system could take an additional 10 years to be removed from the aquifer. The difference in time frames between the natural flushing alternative and the SVE alternative will be therefore greater than 11 years. In addition, further pump-and-treat time may be necessary to remove the last contaminants entering groundwater, and contaminants may continue to enter the groundwater beyond 20 years. This would delay further the attainment of cleanup goals.

Cost Estimates

The commentor claims that the cost estimates are inaccurate because they are based on estimates of the duration of the remedial action. If only five years were required to bring residual concentrations down to MCLs, the additional costs for groundwater remediation at present worth costs would be $539,000; if eight years were required they would be $601,000; and if ten years were required they would be $638,000. Since the present worth cost for SVE is $620,000, the estimated savings generated by natural flushing are thus not greater than $200,000, which more likely range between $0 and $81,000. These savings are not substantial when measured against the estimated total cost (net present worth) of the remedy, or $1.2 million for 10 years and $1.8 million for 30 years, and are not enough to justify selecting natural flushing as a source control remedy.

Companion Treatment System

EPA technical publications (refer to EPA letter, included as Appendix F, for relevant publications) recommend that any and all residual source areas be removed or addressed by a companion treatment system to enhance and improve the effectiveness of pump-and-treat systems. These

publications support the Agency's opinion that preventing or minimizing the contaminant mass from moving from the unsaturated zone to the saturated zone makes more economic and environmental sense than waiting for the contamination to enter groundwater and then attempting to remediate the contamination.

ATTACHMENT D - COPY OF PUBLIC NOTICE

Published GREENVILLE NEWS, Sunday 2/10/91

THE U.S. ENVIRONMENTAL PROTECTION AGENCY INVITES PUBLIC COMMENT ON THE ADMINISTRATIVE RECORD AND PROSPOSED PLAN FOR THE MEDLEY FARM SUPERFUND SITE IN CHEROKEE COUNTY, SOUTH CAROLINA

Tuesday, February 12, 1991 at 7:00 p.m.
Gaffney High School Cafeteria
(803) 489-2544

Public Meeting

The U.S. Environmental Protection Agency (EPA) will hold a public meeting on Tuesday February 12, 1991, at 7:00 p.m. in the Gaffney High School cafeteria, at 905 E. Frederick Street, Gaffney, South Carolina. The purpose of the meeting will be to discuss the Proposed Remedial Action Plan including the preferred action alternative designed to address contamination at the Medley Farm Superfund Site. Other cleanup alternatives which were evaluated in the Feasibility Study (FS) will also be reviewed. The public is encouraged to attend, ask questions, and offer comments at the meeting.

The Medley Farm Superfund Site occupies a 7-acre tract of land off Highway 72, about 6 miles south of the City of Gaffney. During the period from 1973 to 1978, textile, paint, and chemical manufacturing wastes were disposed of on the Medley Farm site. In May 1983, EPA conducted sampling at the Site and performed an emergency removal action in the following month. After negotiations with EPA, five of the potentially responsible parties (PRPs) agreed to fund and carry out the Remedial Investigation/Feasibility Study (RI/FS) for the Site. The draft RI was presented to EPA in March 1990, and the Site was placed on the National Priorities List (NPL) for a Superfund cleanup. Based on the RI findings, the EPA has reviewed nine alternatives for addressing groundwater and source contamination at the Site.

Preferred Alternative

The preferred alternative for cleanup involves:

- Recovery of all ground water that exceeds maximum concentration levels and treating the extracted ground water prior to discharging to Jones Creek through an air stripping tower; and
- Soil vapor extraction in areas exceeding calculated soil remediation levels. If levels of contaminants in the extracted air are above those allowed by either the Clean Air Act and/or the South Carolina Pollution Control Act, then the extracted vapors will be passed through an activated carbon unit prior to being released to the environment.

Other Alternatives

Other remedial alternatives under consideration include:

- No action
- Treatment of ground water using carbon absorption
- Treatment of ground water using chemical oxidation
- Treatment of ground water at property line using the same three options listed above
- Capping the source areas.

These alternatives are presented fully in the FS.

Public Comment Period

EPA hereby announces a 30-day public comment period, from February 13 to March 14, 1991, during which time the public is invited to review and comment on the Administrative Record, including the Proposed Plan, RI, and FS reports. Selection of the final remedy will be made after consideration of all public comments on the RI/FS and the Proposed Plan, and will be documented in the Record of Decision for the Site.

Information Repositories

The Administrative Record, including the Proposed Plan and RI/FS documents, is available for public review at the following location:

Cherokee Public Library
300 E. Rutledge Street
Gaffney, SC 29340

Hours:
Monday & Tuesday: 10 am-6 pm
Wednesday - Friday: 10 am-6 pm
Saturday: 10 am-4 pm

Contact: Ms Anne Moseley
(803) 487-2711

Additional Information

If, after reviewing the Site information, you would like to comment in writing on EPA's preferred or other alternatives, or other issues relevant to the Site cleanup, please mail your written comments to:

Mr. Jon Bornholm
Community Relations Coordinator
U.S. Environmental Protection Agency
Region IV
345 Courtland Street, N.E., Atlanta, GA 30365
(404) 347-7791

N-2994-D

Mr. Bornholm may also be contacted for further information about the Site, or for questions regarding the public meetings or opportunities for public participation.

CDM FEDERAL PROGRAMS CORPORATION

TELECOPY TRANSMITTAL

TO: Jon Bornholm

LOCATION: EPA/Atlanta FAX #: 347-1695

FROM: Gilda

DATE: 5-17-91

PAGES: 13 (includes cover sheet)

NOTE: If you do not receive all of the pages indicated, or if any pages are not legible, please call: Laura Nelms (404) 952-7393